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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/688,005

10/16/2003

Jorge Alberto Grilo

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4393

7590

04/25/2005

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EXAMINER

CHOE, HENRY

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/688,005	GRILO, JORGE ALBERTO	
	<b>Examiner</b>	<b>Art Unit</b>	
	Henry K. Choe	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-10 and 20-22 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/20/04</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Election***

Applicant provisionally elected the species I without traverse. Applicant also designated that the claims 1-14 and 20-24 read on species I. Examiner disagrees with this statement. Claims 11-14 read on species II because the recitation "a differential current mirror" only describes the Fig. 9. Claims 23 and 24 read on species II because the recitation "positive feedback" only describes the Fig. 9. Therefore, it is concluded that the claims 11-19, 23 and 24 are considered non-elected claims.

### ***Claim Objections***

Claims 1 and 20 are objected to because of the following informalities: In line 10 of claim 1, should "cascade" be --cascode--? In line 8 of claim 20, should "at at least" be --at least--? Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 5-9 and 20-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Luo.

Regarding claims 1, 7 and 20, Luo discloses an amplifier circuit comprising a current mirror (Q3, Q1) having an input node (a node between Vcc and Ibias), a

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cascode node (a node between Q1 and Q2), an output node (Output), a first current mirror path (a signal flowing from Ibias to Q4 to Q2) between the input node (a node between Vcc and Ibias) and the cascode node (a node between Q1 and Q2), a second current mirror path (a signal flowing from Ibias to Q4 to Q3 to Q1) between the input node (a node between Vcc and Ibias) and the cascode node (a node between Q1 and Q2), at least one semiconductor device (Q4) in the first current mirror path (a signal flowing from Ibias to Q4 to Q2), at least one semiconductor device (Q3) in the second current mirror path (a signal flowing from Ibias to Q4 to Q3 to Q1), a device (R1, C1) which is configured to provide modifying the transfer function to increase the bandwidth by maintaining an AC ground, and wherein the first signal path (a signal flowing from Ibias to Q4 to Q2) includes a lesser number (the first signal path contains two semiconductor junctions) of semiconductor junctions (Q4, Q2) than the second signal path (a second signal path contains four semiconductor junctions).

Regarding claim 3, the device includes delay element (R1, C1).

Regarding claims 5, 8 and 9, the delay element includes a resistor (R1) capacitor (C1) network.

Regarding claim 6, the capacitance (capacitance of C1) of the resistor capacitor network is generated by a semiconductor device input capacitance.

Regarding claim 21, the delay (R1, C1) includes a semiconductor device.

Regarding claim 22, the amplifier includes at least one current mirror (Q3, Q1).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luo.

Regarding claim 2, Luo discloses all the limitations in the claim 2 except for that the first and second current mirror pathes include the field effect transistors. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted well known art-recognized equivalent transistors such as the field effect transistors in place of the bipolar transistors in the circuit of the Luo because such a modification would have been considered a mere substitution of art-recognized equivalent transistors.

Regarding claim 10, Luo discloses all the limitations in the claim 10 except for that the input signal is at a frequency of greater than 300 MHz. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have implemented the specific frequency value of the input signal, since they are based on the routine experimentation to obtain the optimum operating parameters.

***Allowable Subject Matter***

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent numbers (6,842,075; 4,309,665) are the current mirror amplifiers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry Choe whose telephone number is (571) 272-1760.



**HENRY CHOE  
PRIMARY EXAMINER**

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